Rhode Island Department of Transportation

Bridge Inspection Report

Structure Inventory and Appraisal Sheet (English Units)

Name: Washington Bridge South Agency ID: 020001 Inspec Date: 07/23/2019 Inspected By: AECOM-Commonwealth

IDENTIFICATION

Rte.(On/Under)	5A:	Route On Structure	State	1:	44 Rhode Island
Rte. Signing Prefix	5B:	1 Interstate Hwy	Facility Carried	7:	I-195 EB
Level of Service	5C:	1 Mainline	Municipality	4:	East Providence
Route Number	5D:	00195	SHD District	2:	District 3
Directional Suffix	5E:	2 East	Feature Intersected	6:	SEEKONK RVR & STS
Border Bridge Code	98:	Not Applicable (P)	County Code	3:	Providence
Border Bridge Number	99:		Location	9:	1.0 Mi E of JCT I-95&195
Mile Post	11:	1.273 mi	Latitude	16:	41° 49' 08"
Struc Num	8:	000000000002000	Longitude	17:	071° 23' 13"
% Responsibility:					

INSPECTION

Inspection Date	90:	7/23/2019	Frequency	91:	24 months	Next Inspection:	7/23/2021
FC Inspection Date	93A:	NA	FC Frequency	92A:		Next FC Inspection:	NA
UW Inspection Date	93B:	7/24/2017	UW Frequency	92B:	48 months	Next UW Inspection:	7/23/2021
SI Date	93C:	NA	SI Frequency	92C:		Next SI:	NA
Element Insp. Date:		7/23/2019	Element Frequency:		24 months	Next Elem. Insp.:	7/23/2021

CONDITION

CONDITION Fair

Deck	58:	7 Good	Super	59:	7 Good	Sub	60: 6 Satisfactory
Culvert	62:	N N/A (NBI)	Channel/Channel Protection	61:	6 Bank Slumping		

SD/FO: ND

SUFF RATE: 79.2

LOAD RATING AND POSTING

Inventory Rating Method	65:	3 LRFR Load & Res. Fact	Operating Rating Method	63:	3 LRFR Load & Res. Fact
Inventory Rating	66:	MS16.6	Operating Rating	64:	MS22.2
Design Load	31:	5 MS 18 (HS 20)			
Posting Status	41:	A Open, no restriction	Posting	70:	5 At/Above Legal Loads

GEOMETRIC DATA

Length Max Span	48:	160.37 ft	Structure Length	49:	1,670.79	ft
Width Curb to Curb	51:	68.00 ft	Curb/Sdwlk Width L	50A:	0.00	ft
Approach Roadway width (w/ shoulders)	32:	68.00 ft	Curb/Sidewalk Width R	50B:	0.00 ft	
			Width Out to Out	52:	71.50 ft	
Deck Area:		119,461.48ft²	Median	33:	0 No median	
Skew	34:	0.00°	Structure Flared	35:	1 Yes, flared	
Vertical Clearance	10:	99.99 ft	Horizontal Clearance	47:	83.80 ft	

Minimum Vertical Clearance Over Bridge	53:	17.00 ft
Minimum Vertical Underclearance Reference	54A:	H Hwy beneath struct
Minimum Vertical Underclearance	54B:	20.75 ft
Minimum Lateral Underclearance Reference R	55A:	H Hwy beneath struct
Minimum Lateral Underclearance R	55:	14.50 ft
Minimum Lateral Underclearance L	56:	0.00 ft

Rhode Island Department of Transportation

Bridge Inspection Report

Structure Inventory and Appraisal Sheet (English Units)

AGE AND SERVICE

Year Built	27:	1930	ADT	29:	170,767
Type of Service on	42A:	1 Highway	Year Reconstructed	106:	2008
Type of Service under	42B:	6 Highway-waterway	Detour Length	19:	1.9 mi
Lanes on	28A:	5	Truck ADT	109:	2%
Lanes under	28B:	4	Year of ADT	30:	2015

STRUCTURE TYPE AND MATERIALS

Number of Approach Spans	46:	0	Number of Spans Main Unit	45:	14
Wearing Surface	108A:	1 Monolithic Concrete	Main Span Material Design	43A:	4 Steel Continuous
Membrane	108B:	0 None	Main Span Material Design	43B:	02 Stringer/Girder
Deck protection	108C:	1 Epoxy Coated Reinfo	Deck Type	107:	1 Concrete-Cast-ir

APPRAISAL

Bridge Rail	36A:	1 Meets Standards	Approach Rail	36C:	1 Meets Standards
Transition	36B:	1 Meets Standards	Approach Rail Ends	36D:	1 Meets Standards
Str Evaluation	67:	6 Equal Min Criteria	Deck Geometry	68:	4 Tolerable
Waterway Adequacy	71:	9 Above Desirable	Approach Alignment	72:	6 Equal Min Criteria
Scour Critical	113:	3 SC - Unstable			
Underclearance, Vertical and Horizontal	69:	9 Above Desirable			

CLASSIFICATION

Defense Highway	100:	1 On Interstate STRAHNE	Parallel Structure	101:	Right of || bridge
Direction of Traffic	102:	1 1-way traffic	Temporary Structure	103:	Not Applicable (P)
Highway System	104:	3 On free road	NBIS Length	112:	Long Enough
Defense Hwy	110:	1 On the NHS	Functional Class	26:	11 Urban Interstate
Toll Facility	20:	1 On Interstate STRAHNE	Historical Significance	37:	5 Not eligible for NRHP
Owner	22:	01 State Highway Agency	Custodian	21:	01 State Highway Agency

PROPOSED IMPROVEMENTS

Bridge Cost	94:	$82,878,000	Type of Work	75:	35 Rehabilitate-gen.
Roadway Cost	95:	$8,287,800	Length of Improvement	76:	1,863.85
Total Cost	96:	$124,317,000	Future ADT	114:	204,921
Year of Cost Estimate	97:	2007	Year of Future ADT	115:	2036

NAVIGATION DATA

Navigation Control	38:	Permit Required	Horizontal Clearance	40:	98.1 ft
Vertical Clearance	39:	41.0 ft			
Pier Protection	111:	2 In-Place, Functioning	Lift Bridge Vertical Clearance	116:	

0	12/3	Re Concrete Deck	119,494.00	0%	1.00	100%	119,493.00	0%	0.00	0%	0.00
	1080/3	Delamination/Spall/Patched Area	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
	1120/3	Efflorescence/Rust Staining	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
	1130/3	Cracking (RC and Other)	1.00	100%	1.00	0%	0.00	0%	0.00	0%	0.00
	1190/3	Abrasion(PSC/RC)	119,491.00	0%	0.00	100%	119,491.00	0%	0.00	0%	0.00
	8382/3	Stay-in-Place Form	97,500.00	96%	93,375.00	4%	4,125.00	0%	0.00	0%	0.00
0	107/3	Steel Opn Girder/Beam	16,364.00	100%	16,334.00	0%	24.00	0%	6.00	0%	0.00
	515/3	Steel Protective Coating	247,490.00	98%	242,490.00	2%	5,000.00	0%	0.00	0%	0.00
	1000/3	Corrosion	15.00	0%	0.00	100%	15.00	0%	0.00	0%	0.00
	1020/3	Connection	12.00	0%	0.00	50%	6.00	50%	6.00	0%	0.00
	7000/3	Damage	2.00	0%	0.00	100%	2.00	0%	0.00	0%	0.00
0	205/3	Re Conc Column	39.00	100%	39.00	0%	0.00	0%	0.00	0%	0.00
	8368/3	Graffiti	1,190.00	100%	1,190.00	0%	0.00	0%	0.00	0%	0.00
0	210/3	Re Conc Pier Wall	587.00	50%	293.00	50%	292.00	0%	2.00	0%	0.00
	1080/3	Delamination/Spall/Patched Area	3.00	0%	0.00	100%	3.00	0%	0.00	0%	0.00
	1120/3	Efflorescence/Rust Staining	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
	1130/3	Cracking (RC and Other)	472.00	62%	293.00	38%	179.00	0%	0.00	0%	0.00
	1190/3	Abrasion(PSC/RC)	10.00	0%	0.00	80%	8.00	20%	2.00	0%	0.00
	4000/3	Settlement	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
	6000/3	Scour	100.00	0%	0.00	100%	100.00	0%	0.00	0%	0.00
	8368/3	Graffiti	3,240.00	0%	0.00	100%	3,240.00	0%	0.00	0%	0.00
0	215/3	Re Conc Abutment	171.00	98%	168.00	2%	3.00	0%	0.00	0%	0.00
	1080/3	Delamination/Spall/Patched Area	2.00	0%	0.00	100%	2.00	0%	0.00	0%	0.00
	1120/3	Efflorescence/Rust Staining	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
	1130/3	Cracking (RC and Other)	168.00	100%	168.00	0%	0.00	0%	0.00	0%	0.00
0	220/3	Re Conc Pile Cap/Ftg	218.00	99%	216.00	1%	2.00	0%	0.00	0%	0.00
	1190/3	Abrasion(PSC/RC)	218.00	99%	216.00	1%	2.00	0%	0.00	0%	0.00
0	225/3	Steel Pile	6.00	100%	6.00	0%	0.00	0%	0.00	0%	0.00
	1000/3	Corrosion	1.00	100%	1.00	0%	0.00	0%	0.00	0%	0.00
0	234/3	Re Conc Pier Cap	920.00	99%	909.00	1%	11.00	0%	0.00	0%	0.00
	1080/3	Delamination/Spall/Patched Area	2.00	0%	0.00	100%	2.00	0%	0.00	0%	0.00
	1120/3	Efflorescence/Rust Staining	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
	1130/3	Cracking (RC and Other)	917.00	99%	909.00	1%	8.00	0%	0.00	0%	0.00
0	300/3	Strip Seal Exp Joint	68.00	0%	0.00	34%	23.00	66%	45.00	0%	0.00
	2340/3	Seal Cracking	45.00	0%	0.00	0%	0.00	100%	45.00	0%	0.00
	2350/3	Debris Impaction	23.00	0%	0.00	100%	23.00	0%	0.00	0%	0.00
0	301/3	Pourable Joint Seal	161.00	100%	161.00	0%	0.00	0%	0.00	0%	0.00
0	303/3	Assem Jnt With Seal	220.00	0%	0.00	81%	178.00	0%	0.00	19%	42.00
	2340/3	Seal Cracking	42.00	0%	0.00	0%	0.00	0%	0.00	100%	42.00
	2350/3	Debris Impaction	178.00	0%	0.00	100%	178.00	0%	0.00	0%	0.00
0	321/3	Re Conc Approach Slab	2,212.00	26%	582.00	74%	1,630.00	0%	0.00	0%	0.00
	510/3	Wearing Surfaces	782.00	62%	482.00	38%	300.00	0%	0.00	0%	0.00
	3220/3	*Crack (Wearing Surface)*	*170.00*	*0%*	*0.00*	*100%*	*170.00*	*0%*	*0.00*	*0%*	*0.00*
	1130/3	Cracking (RC and Other)	100.00	100%	100.00	0%	0.00	0%	0.00	0%	0.00
	1190/3	Abrasion(PSC/RC)	1,160.00	0%	0.00	100%	1,160.00	0%	0.00	0%	0.00
0	331/3	Re Conc Bridge Railing	3,318.00	100%	3,317.00	0%	0.00	0%	1.00	0%	0.00
	1130/3	Cracking (RC and Other)	3,309.00	100%	3,309.00	0%	0.00	0%	0.00	0%	0.00
	7000/3	Damage	9.00	89%	8.00	0%	0.00	11%	1.00	0%	0.00
0	8060/3	Scupper	26.00	0%	0.00	85%	22.00	15%	4.00	0%	0.00
0	8107/3	Steel Opn Girder/Beam ENDS	310.00	100%	310.00	0%	0.00	0%	0.00	0%	0.00
	515/3	Steel Protective Coating	3,710.00	100%	3,710.00	0%	0.00	0%	0.00	0%	0.00
0	8213/3	R/C Return Wall	70.00	100%	70.00	0%	0.00	0%	0.00	0%	0.00
	1130/3	Cracking (RC and Other)	70.00	100%	70.00	0%	0.00	0%	0.00	0%	0.00
0	8218/3	Backwall, All Types	171.00	98%	168.00	1%	1.00	1%	2.00	0%	0.00
	1080/3	Delamination/Spall/Patched Area	2.00	0%	0.00	0%	0.00	100%	2.00	0%	0.00
	1120/3	Efflorescence/Rust Staining	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
	1130/3	Cracking (RC and Other)	168.00	100%	168.00	0%	0.00	0%	0.00	0%	0.00
0	8316/3	Isolation Bearing	172.00	35%	61.00	58%	99.00	7%	12.00	0%	0.00

	1000/3	Corrosion	4.00	0%	0.00	100%	4.00	0%	0.00	0%	0.00
	1020/3	Connection	57.00	0%	0.00	79%	45.00	21%	12.00	0%	0.00
	2220/3	Alignment	8.00	0%	0.00	100%	8.00	0%	0.00	0%	0.00
	2230/3	Bulging, Splitting or Tearing	2.00	0%	0.00	100%	2.00	0%	0.00	0%	0.00
	2240/3	Loss of Bearing Area	40.00	0%	0.00	100%	40.00	0%	0.00	0%	0.00
0	**8370/3**	**Steel Diaphragms**	**805.00**	**100%**	**804.00**	**0%**	**1.00**	**0%**	**0.00**	**0%**	**0.00**
	515/3	Steel Protective Coating	24,200.00	100%	24,200.00	0%	0.00	0%	0.00	0%	0.00
	1020/3	Connection	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
12	**Re Concrete Deck**	**3**	**07/23/2019**	**119,494.00**	**sq.ft**	**1.00**	**119,493.00**	**0.00**	**0.00**

The top of the grooved reinforced concrete deck is bare, with no protective wearing surface. The top of the deck was observed to have wheel line rutting, transverse hairline cracks up to full length spaced approximately 2' to 3' apart and areas of minor scaling and wear throughout (See photos 5, 7, 11 and 12).

The underside of the deck is covered by stay-in-place forms except for in Bay "G" and at the overhangs. The exposed portions of the deck underside were observed to have anchor bolt holes, isolated areas of scaling and cracking with and without efflorescence (See photos 25, 27 thru 29, 42, 47 , 56, 70, 73 and 84).

1080	Delamination/Spall/Patched Area	3	07/23/2019	1.00	sq.ft	0.00	1.00	0.00	0.00

Along the middle of Bay "G", with evenly spaced anchor bolt holes adjacent to Girder "G". Some of these holes have been filled while others have not. A few of the holes that have not been filled exhibit signs of leakage (See photos 28, 42, 47 and 73). Some locations were observed to have exposed anchor bolts hanging from the holes (See photo 42).

In Span #13, the exposed deck underside in Bay "G" exhibits an area of scaling up to 36" long x 20" wide x 1/2" deep near the first interior cross frame from Pier #12 (See photo 73).

On the top of deck, there are areas of minor scaling throughout the four (4) main travel lanes in Span #14 (See photo 12).

1120	Efflorescence/Rust Staining	3	07/23/2019	1.00	sq.ft	0.00	1.00	0.00	0.00

The exposed deck underside in Bay "G" exhibits hairline transverse cracks with efflorescence at random locations (See photos 42, 47 and 73).

The north and south deck overhangs were observed to have hairline transverse cracks with and without efflorescence (See photos 25 and 84).

1130	Cracking (RC and Other)	3	07/23/2019	1.00	sq.ft	1.00	0.00	0.00	0.00

On the top of the deck, there are full width hairline cracks spaced every 2' to 3' in all spans (See photos 5, 7, 11 and 12).

The exposed deck underside in Bay "G" exhibits hairline transverse cracks spaced 3' to 6' apart (See photos 42, 47 and 73). The north and south deck overhangs were observed to have hairline transverse cracks with and without efflorescence (See photos 25 and 84).

1190	Abrasion(PSC/RC)	3	07/23/2019	119,491.00	sq.ft	0.00	119,491.00	0.00	0.00

The exposed top of the deck exhibits moderate wear, minor chips in the concrete and isolated scrapes (See photos 5, 7, 11 and 12).

8382	Stay-in-Place Form	3	07/23/2019	97,500.00	sq.ft	93,375.00	4,125.00	0.00	0.00

The stay-in-place forms were observed to have scattered areas of rust mainly at the interfaces between adjacent form sections, especially in bays "A" and "I". Areas of rust cover up to approximately 5% of the bay area in several spans (See photos 29 and 70).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
107	**Steel Opn Girder/Beam**	**3**	**07/23/2019**	**16,364.00**	**ft**	**16,334.00**	**24.00**	**6.00**	**0.00**

The superstructure consists of ten (10) weathering steel plate girders, continuous over all piers except Piers #4 and #9 (See photos 39 and 67). Span #14 is splayed at Abutment #2, with two rolled section kicker beams supporting the flared section of deck along the south side of the bridge. The girder ends are painted below the deck joints at the abutments and at Piers #4 and #9 (See photos 39 and 87).

There are several locations of concrete overpour on the girder webs and bottom flanges throughout the bridge (See photos 46 and 57).

The following locations present minor defects as follows:

In Span #1, Girder "J" has a slightly bent bottom flange, approximately 11' from Pier #1 measuring 5" long x 1/8" high.

In Spans #4 and #5, Girders "A" and "J" do not exhibit the positive camber as adjacent girders and the same girders in other spans.

In Span #11, Girders "A", "B" and "C" do not exhibit the positive camber as adjacent girders and the same girders in other spans, as previously noted in the 2015 Routine Inspection.

515	Steel Protective Coating	3	07/23/2019	247,490.00	sq.ft	242,490.00	5,000.00	0.00	0.00

The weathering steel girders exhibit a normal surface patina with some scattered areas of yellow to orange rust, most common along the top flanges (See photos 22, 34, 37, 63, 70 and 81).

The girder ends are painted 8' to 11' long below the deck joints at the abutments and at Piers #4 and #9. The painted girder ends have isolated locations of chipped, peeling and bubbling paint (See photo 39 and 87).

In Span #1 at Girder "A", the bottom flange near Abutment #1, has an area of peeling/bubbling paint 18" long x 9" wide (top and underside of flange) extending 4" high on the north web.

In Span #9 at Girder "H", the bottom flange underside at Pier #9 has an area of peeling/bubbling paint up to 9' long x full width.

In Span #10 at Pier #9 in Bay "G" the backside of the bearing stiffeners for Girders "G" and "H" are not painted .

In Span #12 at Girder "I", approximately 5% of the bottom flange underside face exhibits yellow to orange rust.

1000	Corrosion	3	07/23/2019	15.00	ft	0.00	15.00	0.00	0.00

Girder "A" in all spans has scattered light areas of laminar rust on the north side and underside of the bottom flange (See photos 22, 34, 63 and 81).

In Span #3 at Girder "H" there is an area of laminar rust on the underside of the bottom flange 4' long x full width that continues on the north web 14' long x 3" high located between the first and second cross frame from Pier #3 (See photo 28).

In Span #7 on the north face of Girder "A" there is minor laminar rust up to 2" high x full length of the splice plate at both the west and splice plate (See photos 48 and 49).

In Span #11 at Girder "A", there is an area of light rust and laminar rust along the interface of the girder top flange and the stay-in-place form between the first and second interior cross frames from Pier #10 (See photo 70).

In Span #13 on the north face of Girder "A" there is a 3" high x 36" long area of minor laminar rusting along the bottom of the web at the field splice (See photo 75).

In Span #14 at Girder "A", there is an area of laminar rust 62" long x 3" high along the bottom of the north web at the east field splice plate (See photo 80)

1020	Connection	3	07/23/2019	12.00	ft	0.00	6.00	6.00	0.00

In Span #4, at Girder "F" bolted field splice, a bolt head on the bottom flange is not flush with the splice plate (See photos 35 and 36).

In Span #7 at Girder "G", there are three (3) missing bolts in the bottom flange at the west field splice plate (See photos 50 and 51). Also, there is one missing bolt in the east field splice plate at the bottom of the flange (See photo 52).

In Span #8 at Girder "G", the bottom flange field splice plate is bent on the top of the flange up to 1/8" high at the north face at the east splice plate (See photo 57).

In Span #9 at the Girder "A", there is a loose, undersized bolt in the bottom flange field splice (See photo 63).

In Span #14 at Girder "B", there is a nut that is backed off at the north top flange field splice plate (See photo 79).

7000	Damage	3	07/23/2019	2.00	ft	0.00	2.00	0.00	0.00

In Span #2 at Girder "I", the bottom flange is bent upward 3/4" high over a 2' length near the second interior cross frame from Pier #2 and the bottom flange at Girder "J" is slightly bent upward in the same location (See photo 23).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
205	**Re Conc Column**	**3**	**07/23/2019**	**39.00**	**each**	**39.00**	**0.00**	**0.00**	**0.00**

There are three (3) reinforced concrete columns at each pier. Column "A" (north column) is supported on an independent drilled shaft. Columns "B" and "C" (center and south columns) are supported by a reinforced concrete pier wall that was part of the original structure (See photos 32, 43, 53, 60 and 69).

8368	Graffiti	3	07/23/2019	1,190.00	each	1,190.00	0.00	0.00	0.00

The columns have scattered areas of graffiti, particularly at the piers on land (See photos 32, 53, 60 and 69).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
210	**Re Conc Pier Wall**	**3**	**07/23/2019**	**587.00**	**ft**	**293.00**	**292.00**	**2.00**	**0.00**

The reinforced concrete pier walls are part of the original structure and support Columns "B" and "C" (center and south columns) (See photos 15, 20, 32, 43, 53, 60, 65 and 69). The piers have a stone masonry facade from below the water surface to the top of the pier wall. There are scattered areas of missing mortar between masonry stones and random cracked stones (See photo 65).

2017 Underwater Inspection:
The reinforced concrete pier walls are part of the original I-195 Eastbound structure and support Columns "B" and "C" (center and south columns) and support the arches (Arches "E" and "F") along with the Pedestrian / Bike Path Bridge (Br. No. 020021). For the Underwater Inspection, the Pier Wall for Bridge No. 020001 and Bridge No. 020021 was inspected and reported as a single structure.

Piers #4 through #9 were included in the underwater inspection from the top of the stone masonry facade (bottom of the pier cope) to the channel bottom.

The stone masonry has scattered areas of missing mortar, up to 15% with penetrations 3" to 6" deep between the stones, cracked stones and missing stones (See UW Photo Nos. 3 thru 21).

The piers also have intermittent areas of footing / pile cap exposure with minor abrasion of the concrete.

1080	Delamination/Spall/Patched Area	3	07/23/2019	3.00	ft	0.00	3.00	0.00	0.00

At Pier #10, there is a spall 1' high x 1' wide x 2" deep on top of the southwest corner of the pier wall.

2017 Underwater Inspection:

At Pier #6 there are intermittent voids up to 3' long x 6" high x 6" deep along the interface of the stone facade and the concrete pier wall.

1120	Efflorescence/Rust Staining	3	07/23/2019	1.00	ft	0.00	1.00	0.00	0.00

At Pier #13 there are two (2) cracks full height x up to 1/16" wide with one on the west face and the other on the east face that exhibit moderate efflorescence.

1130	Cracking (RC and Other)	3	07/23/2019	472.00	ft	293.00	179.00	0.00	0.00

The pier walls typically have scattered vertical hairline cracks (See photo 65). Wider and more extensive cracking is present as follows:

At Pier #9, south of Column "C", there is a transverse crack full-width x 1/16" wide across the top face and a crack full height x up to 1/8" wide on the west face south of Column #3. There is also an area of hairline map cracking 12' long x 6' wide on the top face of pier wall between Columns "B" and "C".

At Pier #10, south of Column "C", there are three (3) transverse cracks full-width x up to 1/8" wide across the top of the pier wall, and extend down the vertical faces of the wall. There is also a vertical crack 3' high x 1/8" wide at the northwest corner.

At Pier #12, there is a crack full height x 1/16" wide on both the east and west face of the pier wall between Columns "B" and "C". There is also a vertical crack full height x up to 1/2" wide on the east face, south of Column "C" that has been repaired.

1190	Abrasion(PSC/RC)	3	07/23/2019	10.00	ft	0.00	8.00	2.00	0.00

2017 Underwater Inspection:
The reinforced concrete pier walls, exposed below the stone facade have areas of abrasion as follows:

At Pier #5 there is a band of abrasion 2'-6" high x 3/4" deep across the north nose and 1/2" deep abrasion along mid-length of the pier wall below the stone facade.

At Pier #7 there are isolated areas of abrasion 2' long x 1' high x 2" deep on the south face and there is a band of abrasion 5' high x 1" deep near the channel bottom on the north face of the pier wall. There is also an area of abrasion 12" diameter x 5" deep near the channel bottom at southwest corner of the pier wall (See Photo Nos. 12 thru 14).

4000	Settlement	3	07/23/2019	1.00	ft	0.00	1.00	0.00	0.00

Settlement gauges previously installed at Pier #12 have either been removed or covered/painted over. As a result, previously noted minor rotation of the pier wall could not be verified from the 2013 Routine Inspection Report. There are some medium to wide vertical cracks in the pier walls of Piers #9, #10 and #12, however no signs of settlement were observed.

2017 Underwater Inspection Notes:
At Pier #7, on both the west and east faces of the pier, there are vertical cracks open to 1/4" wide that extend from the top of the stone masonry facade down to the channel bottom near the midpoint of the pier wall that may indicate slight settlement of the pier, as previously noted in the 2013 Underwater Inspection Report (See UW Photo Nos. 10, 11, 15 and 16).

6000	Scour	3	07/23/2019	100.00	ft	0.00	100.00	0.00	0.00

2017 Underwater Inspection:
Since the 2013 Underwater Inspection, there is evidence of scour at the piers up to 9.9' high (Pier #6), however the exposure of the steps / pile caps up to 3' vertically x up to the full-length of the piers at Piers #4, #5 and #8 has remained relatively unchanged.

8368	Graffiti	3	07/23/2019	3,240.00	ft	0.00	3,240.00	0.00	0.00

The pier walls on land exhibit areas of graffiti (See photos 32, 53 and 69).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
215	**Re Conc Abutment**	**3**	**07/23/2019**	**171.00**	**ft**	**168.00**	**3.00**	**0.00**	**0.00**

Abutment #1 is continuous from Abutment #1 for adjacent Bridge 070001 to the north and Abutment #2 is continuous with the remaining original section of the abutment for Bridge No. 020021 to the south.

Both abutments exhibit random hollow areas, minor spalls, and hairline cracks with and without efflorescence (See photos 17 and 87 thru 89). At Abutment #1, the previously noted areas of graffiti have been painted over (See photo 17).

There is debris on the beam seat in bay G at west abutment #1 (See photo 19).

1080	Delamination/Spall/Patched Area	3	07/23/2019	2.00	ft	0.00	2.00	0.00	0.00

At Abutment #2, on the north face, there is a full height x 12" wide hollow area with perimeter cracking and adjacent 3' high x 12" wide x 6" deep spall located at near the top of the abutment (See photo 87).

1120	Efflorescence/Rust Staining	3	07/23/2019	1.00	ft	0.00	1.00	0.00	0.00

At Abutment #1, there is a hairline crack 20' long with efflorescence, located near the base of the abutment under Bays "H" and "I" (See photo 17).

At Abutment #2, there are random hairline cracks with efflorescence, some which have been repaired (See photos 88 and 89).

1130	Cracking (RC and Other)	3	07/23/2019	168.00	ft	168.00	0.00	0.00	0.00

At Abutment #1, there are scattered vertical and diagonal hairline cracks, most of which have been sealed (See photo 17). Random areas of hairline map cracking are present along the top 10 ' of the abutment face.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
220	**Re Conc Pile Cap/Ftg**	**3**	**07/23/2019**	**218.00**	**ft**	**216.00**	**2.00**	**0.00**	**0.00**

At Pier #10, there is some erosion at the northwest corner of wall, exposing a 22' long portion of the pile cap (See photo 69).

2017 Underwater Inspection:
The pier walls are founded on reinforced concrete pile caps with unknown type piles. The sloped concrete step / pile cap steps out 18" to 2' from the pier face then slopes downward at a 45° angle.

1190	Abrasion(PSC/RC)	3	07/23/2019	218.00	ft	216.00	2.00	0.00	0.00

2017 Underwater Inspection:
The pile caps exhibit abrasion up to 1/2" deep on the exposed surfaces.

At Pier #8 the sloped concrete step / pile cap has an area of abrasion 18" long x 6" high x 2" deep on the east face of the pier, located 5' from the southeast corner.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
225	**Steel Pile**	**3**	**07/23/2019**	**6.00**	**(EA)**	**6.00**	**0.00**	**0.00**	**0.00**

2017 Underwater Inspection:
This element shall be used to rate the condition of the steel encased reinforced concrete caisson piles at the north (upstream) end of the piers.

Over the steel casing at the caisson piles, there is a fiberglass jacket in place that extends 13'-6" down from the underside of the concrete cap section, which has no significant deficiencies (See UW Photo Nos. 3, 5 thru 10, 15, 17, 18 and 20).

1000	Corrosion	3	07/23/2019	1.00	(EA)	1.00	0.00	0.00	0.00

2017 Underwater Inspection Notes:
At Piers #4 through #9, the steel casing at the caisson piles exhibits minor corrosion below the fiberglass jackets.

At Pier #5, the exposed steel casing exhibits a 1' high band of laminar rust with negligible section loss along the channel bottom.
.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
234	**Re Conc Pier Cap**	**3**	**07/23/2019**	**920.00**	**ft**	**909.00**	**11.00**	**0.00**	**0.00**

There are reinforced concrete pier caps at each pier (See photos 20, 26, 31, 32, 40, 43, 58 thru 62, 72, 76 and 77). The pier caps have minor spalls and randomly spaced hairline cracks. There are also areas of isolated minor debris on the seats and the steel template plates for bearings are left on top of the seats from construction.

1080	Delamination/Spall/Patched Area	3	07/23/2019	2.00	ft	0.00	2.00	0.00	0.00

At Pier #1, the west face has a minor spall measuring 6" long x 3" high x 1/2" deep at the bottom edge between Columns "A" and "B" (See photo 20).

At Pier #13, the east face of has a spall 6" diameter x 3/4" deep along the bottom edge between Columns "A" and "B" (See photo 78).

1120	Efflorescence/Rust Staining	3	07/23/2019	1.00	ft	0.00	1.00	0.00	0.00

The pier caps have some scattered vertical and diagonal hairline cracks with light efflorescence (See photos 26, 43, 44, 58 thru 62 and 77).

The east face of Pier #11 was observed to have an approximately 60" high x 0.025" wide vertical crack with efflorescence behind the scupper below bay A (See photo 72).

1130	Cracking (RC and Other)	3	07/23/2019	917.00	ft	909.00	8.00	0.00	0.00

The pier caps have scattered hairline vertical and diagonal cracks, up to full-height (See photos 26, 32, 40, 43, 58 thru 62 and 76). Pier #6 and Pier #8 have a few crescent shaped cracks present at the caps (See photo 58).

Pier #3 has two (2) vertical cracks in the west face of the pier cap beneath Girders "E" and "F" that extend onto the underside of cap (See photo 31). Below Girder "E" the vertical crack measures 6' high x 0.010" wide and continues across the full width of the cap underside. Below Girder "F" the vertical crack measures 6' high x 0.005" wide and continues 12" onto the underside of cap.

The east face of Pier #11 was observed to have an approximately 60" high x 0.025" wide vertical crack with efflorescence behind the scupper below bay A (See photo 72).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
300	**Strip Seal Exp Joint**	**3**	**07/23/2019**	**68.00**	**ft**	**0.00**	**23.00**	**45.00**	**0.00**

There is a strip seal expansion joint at West Abutment #1 (See photo 3). The seal was observed to have several locations of ripped, missing and depressed neoprene, debris impaction and cracking of the seal.

2340	Seal Cracking	3	07/23/2019	45.00	ft	0.00	0.00	45.00	0.00

At the Abutment #1 joint, there is a transverse crack 45' long x up to 1" wide (See photo 3).

2350	Debris Impaction	3	07/23/2019	23.00	ft	0.00	23.00	0.00	0.00

There is light to moderate dirt and debris in the joint (See photo 3).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
301	**Pourable Joint Seal**	**3**	**07/23/2019**	**161.00**	**ft**	**161.00**	**0.00**	**0.00**	**0.00**

There is pourable joint sealant at the approach slab joints at both ends of the bridge (See photos 3 and 13). The joint sealant exhibits no defects.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
303	**Assem Jnt With Seal**	**3**	**07/23/2019**	**220.00**	**ft**	**0.00**	**178.00**	**0.00**	**42.00**

There are modular expansion joints at Piers #4 and #9 and at Abutment #2 that have several locations of ripped, missing and depressed neoprene as well as debris impaction (See photos 9, 10 and 13).

2340	Seal Cracking	3	07/23/2019	42.00	ft	0.00	0.00	0.00	42.00

At the Pier #4 joint there are several areas where the neoprene seal is ripped and torn along approximately half the length of the joint (See photo 9).

At East Abutment #2 there are several locations of ripped, missing and depressed neoprene seal throughout (See photo 13).

2350	Debris Impaction	3	07/23/2019	178.00	ft	0.00	178.00	0.00	0.00

The modular joints typically exhibit light to moderate dirt and debris impaction, with heavier impaction observed in the low speed shoulder.

The joint at Piers #4 and #9 have moderate debris in the joint up to full length (See photos 9 and 10).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
321	**Re Conc Approach Slab**	**3**	**07/23/2019**	**2,212.00**	**sq.ft**	**582.00**	**1,630.00**	**0.00**	**0.00**

There are reinforced concrete approach slabs at either end of the bridge. The west approach slab is paved over with a bituminous wearing surface and is therefore not visible (See photo 2). The east approach slab is bare, with no protective wearing surface and exhibits minor defects (See photo 14).

510	Wearing Surfaces	3	07/23/2019	782.00	sq.ft	482.00	300.00	0.00	0.00

The west approach slab is paved over with a bituminous wearing surface that exhibits cracking and minor wheel line rutting. There is an approximately 25' long area of deterioration and settlement along the pavement seam in the low speed lane (See photo 2).

3220	*Crack (Wearing Surface)*	*3*	*07/23/2019*	*170.00*	*sq.ft*	*0.00*	*170.00*	*0.00*	*0.00*

The bituminous wearing surface at the west approach slab was observed to have an approximately 25' long area of deterioration and settlement along the pavement seam in the low speed lane (See photo 2). There are also hairline transverse cracks throughout (See photo 2).

1130	Cracking (RC and Other)	3	07/23/2019	100.00	sq.ft	100.00	0.00	0.00	0.00

The top surface of the east approach slab has scattered longitudinal cracks in the off ramp lane (See photo 14).

1190	Abrasion(PSC/RC)	3	07/23/2019	1,160.00	sq.ft	0.00	1,160.00	0.00	0.00

The east approach slab exhibits areas of minor to moderate wear, as well as a few minor scrapes and gouges (See photo 14).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
331	**Re Conc Bridge Railing**	**3**	**07/23/2019**	**3,318.00**	**ft**	**3,317.00**	**0.00**	**1.00**	**0.00**

There are reinforced concrete bridge railings along both sides of the bridge. The bridge railings/safety barriers extend beyond the approaches. The railings exhibit scattered vertical cracks, a few isolated scrapes, and minor gouges (See photos 4, 7, 8 and 11).

1130	Cracking (RC and Other)	3	07/23/2019	3,309.00	ft	3,309.00	0.00	0.00	0.00

The concrete railings have scattered full height hairline cracks spaced 2 ' to 3' apart on the bridge (See photo 8).

The exterior face of the bridge railing along both sides was observed to have up to full height vertical hairline cracks throughout (See photos 15 and 25).

7000	Damage	3	07/23/2019	9.00	ft	8.00	0.00	1.00	0.00

The northwest approach rail has impact damage approximately 9 ' long x 3' high.

Both railings were observed to have impact damage/scrapes and minor gouges throughout (See photos 4, 7, 8 and 11) .

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8060	**Scupper**	**3**	**07/23/2019**	**26.00**	**(EA)**	**0.00**	**22.00**	**4.00**	**0.00**

Scupper Grates – A majority of the grates along the south curb are partially to 100% clogged with dirt/ mud. The scupper grate near the west abutment #1 joint is 100% clogged with mud/debris and has standing water at the time of the inspection (See photo 4). The scupper grate near pier #2 is 100% clogged with mud/debris and has heavy vegetation growth (See photo 6). The scupper grate near pier #4 is 100% clogged with mud/debris, has heavy vegetation growth and standing water at the time of the inspection (See photo 8). The scupper grate in span #14 was observed to be partially blocked by mud and debris (See photos 12).

The scupper grates along the north curb make a banging noise when vehicles pass over them.

Scupper Downspouts – The downspouts are clogged at west abutment #1 south side, Pier #1 north side , Pier #2 south side, Pier #5 south side, Pier #6 south side (See photo 44). There is a clogged catch basin at the base of east abutment #2 that has caused standing water up to full length of the abutment (See photo 88).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8107	**Steel Opn Girder/Beam ENDS**	**3**	**07/23/2019**	**310.00**	**ft**	**310.00**	**0.00**	**0.00**	**0.00**

The steel girder ends are painted over at both abutments and at piers #4 and #9. The girder ends were observed to be in good condition with isolated locations of chipped paint and light surface rust (See photos 39)

515	Steel Protective Coating	3	07/23/2019	3,710.00	sq.ft	3,710.00	0.00	0.00	0.00

The painted girder ends were observed to be in overall good condition with an isolated area of chipped paint with light rust (See photo 39)

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8213	**R/C Return Wall**	**3**	**07/23/2019**	**70.00**	**(LF)**	**70.00**	**0.00**	**0.00**	**0.00**

There is a reinforced concrete return wall at the northeast corner of the bridge. The Northeast Return Wall has an architectural finish and displays hairline cracks with light to moderate vegetation growth in front of the wall (See photo 87).

1130	Cracking (RC and Other)	3	07/23/2019	70.00	(LF)	70.00	0.00	0.00	0.00

The Northeast Return Wall has vertical hairline cracks extending from the weep holes up to 10' high (See photo 87).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8218	**Backwall, All Types**	**3**	**07/23/2019**	**171.00**	**(LF)**	**168.00**	**1.00**	**2.00**	**0.00**

There are reinforced concrete backwalls at both abutments. The backwalls exhibit spalls and cracks with and without efflorescence (See photos 18, 82 and 83).

1080	Delamination/Spall/Patched Area	3	07/23/2019	2.00	(LF)	0.00	0.00	2.00	0.00

At Abutment #2, there is a 7" high x 24" wide x up to 12" deep spall at the top of backwall, behind Girder "A" (See photo 82).

1120	Efflorescence/Rust Staining	3	07/23/2019	1.00	(LF)	0.00	1.00	0.00	0.00

The backwalls have random hairline vertical cracks up to full height with efflorescence (See Photos 18 and 83).

1130	Cracking (RC and Other)	3	07/23/2019	168.00	(LF)	168.00	0.00	0.00	0.00

The backwalls have random hairline cracks up to full height (See Photos 18 and 83).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8316	**Isolation Bearing**	**3**	**07/23/2019**	**172.00**	**(EA)**	**61.00**	**99.00**	**12.00**	**0.00**

There are isolation bearings at the piers and both abutments. Several of the bearings have light to moderate rust, concrete debris/over-pour from construction, widespread locations of misalignment and connection issues at approximately 50% of all connections (See photos 21, 24, 30, 33, 38, 39, 41, 45, 55, 64, 68, 71, 74, 85 and 86).

1000	Corrosion	3	07/23/2019	4.00	(EA)	0.00	4.00	0.00	0.00

At Pier #3, Girders "E" and "G" bearings exhibit areas of light to moderate rust (See photo 30).

At Pier #4, Girder "J" bearing in Span #4 exhibits moderate rust on the masonry plate (See photo 39). Light rust was observed on the Girder "H" bearing.

At Pier #5, Girder "H" bearing in Span #6 exhibits scattered areas of moderate rust on bearing plates (See photo 45).

At East Abutment #2, Kicker Beam L was observed to have moderate to heavy surface rust on the masonry plate (See photo 86).

1020	Connection	3	07/23/2019	57.00	(EA)	0.00	45.00	12.00	0.00

The bearing connection hardware consists of anchor rods, nuts, bolts and washers. Approximately 50% of all connections are either loose, tilted, backed off, or missing. Generally, bolts and nuts are backed off from 1/16" up to 1-1/2" (See photos 21, 24, 33, 55, 68, 71 and 86).

2220	Alignment	3	07/23/2019	8.00	(EA)	0.00	8.00	0.00	0.00

At Pier #2, the Girder "J" bearing is offset up to 2" to the west. The anchor bolt on the south end is bent slightly to the north (See photo 24).

At Pier #4, Span #5, Girders "B" through "I" centerline is offset up to 1.25" south of the bearing pad centerline (See photo 41).

At Pier #8, Girders "G" and "H" centerlines of are offset approximately 1-1/2" south of the bearing pad centerline. Girder "B", centerline is offset 2-1/4" to the south of the centerline of the bearing. Girders "D" and "E" centerlines are also offset up to 3" to the south of the bearing pad centerlines.

At Pier #9 a majority of the girder centerlines are offset up to 1" to the south of the bearing pad centerlines. Girder C is offset approximately 2.5" to the north of the bearing centerline (See photo 68).

At Abutment #2, Girders "B", "D" and "G" through "L" centerlines are offset 2" south of the bearing pad centerline (See photos 85 and 86).

In addition, some girder bottom flanges are not seated flush with the sole plates. These deficiencies are as follows:

At Pier #2, Girder "J" bearing in Span #2, exhibits a 1/16" gap between the bottom flange and sole plate at the southwest corner and tapers flush at the northwest corner of the bearing.

At Pier #5, Girder "H" bearing in Span #6, exhibits a 1/16" gap between the bottom flange and sole plate on the east face of the bearing (See photo 45).

At Pier #9, Girder "A" bearing in Span #10, exhibits a 1/16" gap between the bottom flange and the sole plate.

At Pier #12, Girder "J" bearing in Span #13, exhibits a 1/16" gap between the bottom flange and the sole plate at the southeast corner and tapers flush at the northeast corner of the bearing.

2230	Bulging, Splitting or Tearing	3	07/23/2019	2.00	(EA)	0.00	2.00	0.00	0.00

At Pier #4, Girder "E" bearing in Span #4, the bearing material is compressed up to 1/4" on the south side (See photo 38)

At Pier #4 in span #5 the south side of bearing "E" is compressed up to ¼" (See photo 41).

At Pier #8, Girder "A" bearing is compressed up to 1/4" on the south side.

2240	Loss of Bearing Area	3	07/23/2019	40.00	(EA)	0.00	40.00	0.00	0.00

Several of the bearings exhibit gaps between the masonry plate and the top surface of the concrete pedestal along the edges of the plate. The gaps between the masonry plate and the concrete bearing pedestal are up to 1/4" high at several locations and up to 3/4" high in a few locations. The gaps are the result of the top surface of the concrete pedestal having an uneven finish at these locations (See photos 30, 45, 64, 71 and 74).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8370	**Steel Diaphragms**	**3**	**07/23/2019**	**805.00**	**(EA)**	**804.00**	**1.00**	**0.00**	**0.00**

The interior cross frames and end diaphragms have scattered areas of yellow to orange rust with scattered locations of concrete debris / over-pour from construction and isolated locations of connection deficiencies. (See photos 19, 44, 66, 73 and 83).

515	Steel Protective Coating	3	07/23/2019	24,200.00	sq.ft	24,200.00	0.00	0.00	0.00

The cross frames and diaphragms are protected by a weathering steel patina. The weathering steel diaphragms and cross frames exhibit a normal surface patina with some scattered areas of yellow to orange rust. The end diaphragms below the deck joints at the abutments and at Piers #4 and #9 are painted (See photos 19, 44, 66, 73 and 83). However, the end diaphragm at Pier #9 in Span #10 is not painted on the west face.

1020	Connection	3	07/23/2019	1.00	(EA)	0.00	1.00	0.00	0.00

Bay “G” interior cross frames in several spans have plate washers overlapping adjacent washers and are slightly bent (See photo 66).

At Pier #9 in Span #10, the bolts at the end diaphragm connections to Girder “G” and “H” in Bay “G” are loose or not fully engaged. There is also a slight gap between the bearing stiffener plate and the end diaphragm at both connections.

BRIDGE NOTES

EQUIPMENT REQUIRED: 60' Manlift, Barge with 60' manlift for spans over water, Local Police, Traffic Control, Crash Truck

TRAFFIC CONTROL INFORMATION: Need traffic control for work in Span 1 over Gano Street, Span 14 over Waterfront Drive and Water Street and for the rolling topside inspection.

POLICE DETAIL NEEDED: Need police detail for work in Span 1 over Gano Street, Span 14 over Waterfront Drive and Water Street and for the rolling topside inspection.

INSPECTION NOTES

Routine Inspection Completed by Commonwealth Engineers and Consultants, Inc.
Inspection Dates: 06/24/19 – 07/23/19
Team Leaders: Dave Titus, P.E., Ben Soares, P.E., Niverio Carvalho, P.E., Jim Onysko, P.E.
Team Member: Matt Brooks

The scope of work was to perform a routine inspection of the bridge.

No significant changes in the condition of the structure were observed during this inspection, and therefore the NBI condition ratings remain unchanged:

Deck (58) – 7 Good
Superstructure (59) – 7 Good
Substructure (60) – 6 Satisfactory

Deflection and Vibration – No unusual deflection or vibration was noted.

The electrical conduit flexible coupling at the joint over pier #9 on the exterior face of the south railing was observed to be torn and detached (See photo 67).

Underbridge Lights – There are four (4) lights over Waterfront Drive which were on during the inspection and two (2) lights over Water Street which were off during the inspection. The electrical conduit under Beam "I" in Span #14, is missing an attachment bracket.

Light Standards – There are ten (10) lights spaced evenly along the north side and south side of the bridge, respectively. The lights were not on at the time of the inspection and it is unknown if they function.

Underwater Inspection Notes:

Fender System – There is a timber fender system in place along the east side of Pier #6 and the west side of Pier #7. The timber fender system members exhibit minor splits and checking along with damaged or missing handrails (See photos 53 and 54). The dolphin pile groups at the south (downstrea m) end of the fenders have recently been replaced and have no significant defects.

Navigational Lighting – The navigational lighting system in place exhibits no significant deficiencies, however the lights were not on at the time of the inspection.

Channel Debris – There are no obstructions or debris accumulation which would affect the hydraulic opening at the bridge.

SCHEDULE NOTES

Rhode Island Department of Transportation

Bridge Inspection Report

Structure Inventory and Appraisal Sheet (English Units)

Equipment

Aerial Lift	☑
Boat	☑
Underbridgeinspvel	☐
Scaffolding	☐
BoesemansChair	☐
Waders	☐
Rail Mount Elliot	☐
Crash Truck	☑
Air Monitor	☐
Ladder	☑
Bucket Truck	☑
Rigging	☐
Floats	☐
Climbing	☐
Rail Mount Bucket Truck	☐
Light Tower	☐

Poison Ivy	☐
Heavy Vegetation	☐
Hurricane Evac Route ?	☐

Cones	Yes
Traffic Setup Req	Yes
Police Req	Yes
Night Insp Req	No
Signs	Yes

Speed Limit
Prep Time
Crew SIize
Under Insp Vehicle Time
Traffic Control Time
Mile Post
Crew Days
Time Report Time
Bucket Truck Time

Site Access Notes

Avg Curb Reveal North/East	
Avg Curb Reveal South/West	
Posted Weight Limit	
Posting Sign ?	☐
Post Signs Legible	-1
Post Sign Rec	-1
Adv Min Vert Clear Sign	02
Min Ver tClear Signs Leg	01
Min Vert Clear Post Vales	
Min Vert Clear Sign Rec	01
Old Rating and Postings	
RR Mile Post	
US DOT/AAR No.	

Telephone	☐
Sewer	☐
Cable	☐
Oil	☐
Fire Alarm	☐
OH Lines Present	☐
Water	☐
Gas	☐
Electric	☐
Fiber Optic	☐

Work Candidaties

Assigned tio Agency

Stiatius	Prioritiy	Action	Datie Proposed	Noties
Unknown	Medium	Drain-Cln/Clr Dck Drain/Dwn spouti	07/28/2015	Ati Piers5, 6, 7 and 11, tihe soutih scuppers are completiely clogged and need tio be cleaned outi The quantitiy of scuppers requiring cleaning is 4 EA. Also, tihere are5 scuppers along tihe nortih side of tihe bridge tihati are missing a gratie The nortih scuppers fall witihin tihe wheel line of tihe highspeed lane and tiherefore tihese scupper graties should be replaced.